TAYLOR INSTRUMENT COMPANIES

ROCHESTER, N. Y., U. S. A.

Manufacturers of Temperature and Pressure Measuring Instruments

Cable Address
"TYCOS" Rochester
Iron Age Code on page 8

Other Codes Used
ABC 5th Edition
Western Union Universal Edition

Products

TEMPERATURE REGULATORS
VACUUM GAUGES
PRESSURE GAUGES
HYDROMETERS
THERMOMETERS
PYROMETERS
HYGROMETERS
ANEMOMETERS

REG. U.S. PAT. OFF. Tycos ROCHESTER, N.Y.
TRADE MARK

Single-Duty Temperature Regulator

Single-duty temperature regulators are made for many different applications. One form differs from another only in the construction or style of the sensitive member, commonly known as the "bulb stem." Fig. 1 shows the No. 4 type of bulb; the number of this specific regulator is 15 004.

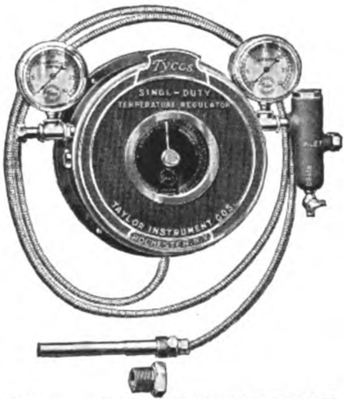


FIG. 1. TEMPERATURE REGULATOR

Type "P" Temperature Regulator

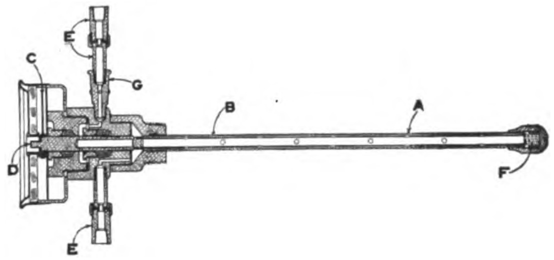


FIG. 2. SECTIONAL VIEW TYPE "P" REGULATOR

A, expanding stem; B, non-expanding stem; C, air leak; D, adjusting posts; E, connection to diaphragm valve; F, cushion spring; G, indicator.

The varied processes and apparatus to which type "P" can be applied are almost unlimited. They vary from air ducts and air washing machines to syrup tanks and wool scouring machines. Its motive power is compressed air.

Recording Thermometer

The recording thermometer is of attractive and compact design, finished in nickel, with polished front. The high grade clock movement is designed to meet the exacting requirements of this instrument and is housed in a lacquered, drawn brass dust-proof box. The flexible capillary connecting tubing is finished in nickel, practically indestructible and therefore requires no protecting covering or armor. Actuating medium is mercury and the thermometer has a range of from —40° to 1000° F. (—40° to 538° C.).

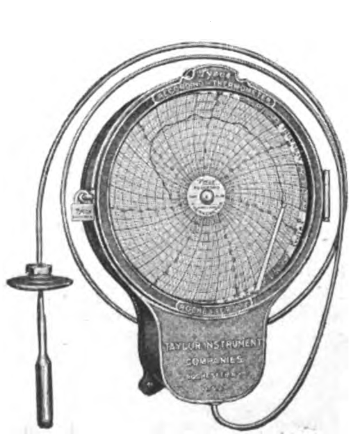


FIG. 3. RECORDING THERMOMETER

Recording Gauges for Pressure and Vacuum

The movement of the spring, or diaphragm, inside the case is transmitted by a link to the pivoted pen-arm. This form of construction gives greater stability under conditions of vibration and insures correct time readings and bearing pressure of the pen-point on the chart.

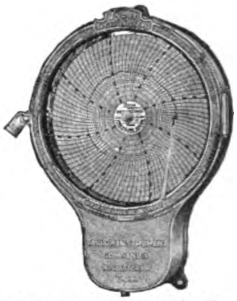


FIG. 4. PRESSURE AND VACUUM GAUGE

The patented pen-arm seal prevents adjustment of the pen by unauthorized persons, since it is necessary to break a leaded wire seal before an adjustment can be made or the case removed from the base to interfere with the mechanism which is housed in the lower part. "Tycos" recording gauges are, therefore, tamper proof.

The temperature scale of the chart is as wide as on other charts and the divisions are of uniform width throughout the entire range.

Temperature Controls, Electric Contact Type

—For automatically controlling the temperature of electrically heated apparatus, especially within limits of —40° to 1000° F. (—40° to 538° C.). It is impossible to outline here the many special problems that can be taken care of to advantage or to thoroughly describe these instruments. We solicit inquiries with full details, so that we may submit our recommendations.

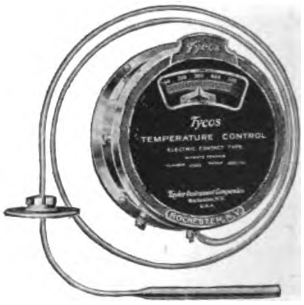


FIG. 5. TEMPERATURE CONTROL

Mercury Column Vacuum Gauge

It measures the extent of existing vacuum below atmosphere. Substantial construction, in black enameled cylindrical steel case, with highly polished bronze front holding a heavy glass plate over V-shaped scales, with black figures and graduations on silvered background.

Length 37⅞ in. (962 mm.), diameter 3½ in. (89 mm.) center to center of bracket holes, vertical 30⅜ in. (771 mm.), horizontal 4¾ in. (121 mm.).

Mercury Column Absolute Pressure Gauge

—The exact reverse, in its action, of the mercurial vacuum gauges.* Readings are independent of barometric pressure or changes of level of mercury in cistern.

Length 18¾ in. (476 mm.), width 4¼ in. (108 mm.), incased in polished bronze and mounted on panel of hardwood (Fig. 13).

*It indicates directly the absolute pressure in the apparatus to which it is connected.

Other Types of Gauges

—Draft gauges, for measuring draft at furnace front under grate, at the uptake or at the breeching; air

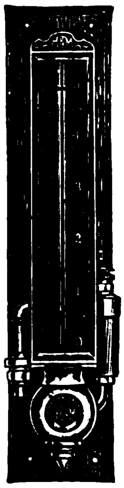


FIG. 6. ABSOLUTE PRESSURE

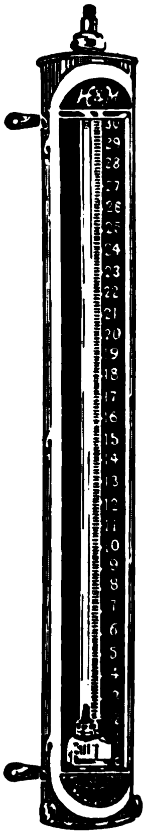


FIG. 7. VACUUM

blast and gas pressure gauges, for use on hardening furnaces for high speed tools, cupolas, etc., and high pressure gas gauges, for gas pressures over 18 in. (457 mm.). Illustrative catalogues mailed on application.

Anemometers

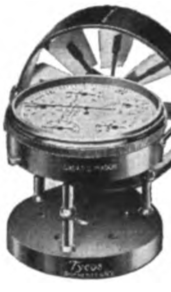


FIG. 8. AIRMETER

Instruments are equipped with disconnectors, patent zero setting attachments, jeweled movements, charts of correction, leather cases, etc. They are used for the measurement of air currents through mines, tunnels, flues, etc. Indications obtained by means of fan wheel. Recordings commenced by long hand on main dial, which shows passage of 100 ft. (30 m.) of air. Enumeration contained by the smaller dials. The 4-dial instrument, measuring 100,000 ft. (30 480 m.) is recommended.

Hydrometers

Used to determine the relative density or weight of liquids. The hydrometer operates in accordance with the general physical law, that a floating body displaces its own weight of the liquid in which it floats.

Scale range governs largely the degree of accuracy of the instrument. When range is large, subdivisions are closer together and action of hydrometer is more sluggish than where only a few degrees are shown on the stem, the latter allowing not only finer but more open subdividing.

Specific gravity is the standard scale of hydrometers, even for testing mineral oil.

Hydrometers are made either plain (without thermometers) or in the form of thermo-hydrometers (hydrometer and thermometer combined in one instrument).

FIG. 9. HYDROMETER

"Tycos" Tempering Thermometers

This Company manufactures special instruments designed for registering the temperature of large masses of metal, and suited for gauging the temperature in the process of tempering articles such as circular saws, etc.

OIL TEMPERING BATH THERMOMETERS—Scales housed in polished aluminum casting, with heavy plate glass front; stem, length 6 in. (152 mm.) or longer; range of scale, 200 to 750 degrees F. (93 to 399 degrees C.).

QUENCHING BATH THERMOMETERS—Range of scale, 30 to 220 degrees F. (—1 to 104 degrees C.) or to 100 degrees F. (37,8 degrees C.); 10 or 12 in. (254 or 305 mm.) scale case; stem, 14 or 24 in. (356 or 610 mm.)

TEMPERING OVEN AND HEATING MACHINE THERMOMETERS—Thoroughly protected, sensitively constructed, glass tube not exposed; scale range, low heat, 200 to 750 degrees F. (93 to 399 degrees C.); high heat, 210 to 950 degrees F. (99 to 510 degrees C.). Adjustable clamp flange supplied.

MOLTEN METAL THERMOMETERS—Used in lead, galvanizing and spelter baths for tempering purposes, for tinning hardware and for renovating stamped tin plate, and on can soldering machines, etc.; stem, 12 and 18 in. (305 and 457 mm.); range of scale, 200 to 950 degrees F. (93 to 510 degrees C.) or 200 to 750 degrees F. (93 to 399 degrees C.).

Flue Gas Thermometers

In all steam plants a check on the consumption of fuel is of the utmost importance and therefore the temperature of the waste gases escaping from the stack should be carefully noted. For this purpose a permanently accurate, easily read and substantial thermometer should be used, and the "Tycos" flue gas thermometer will be found to fill these requirements perfectly.

"Tycos" angle and straight stem thermometers are made in many special styles and sizes for use in thousands of diverse applications.

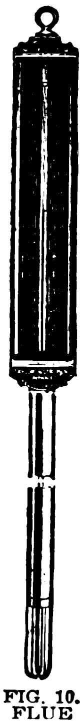


FIG. 10. FLUE GAS THERMOMETER

Pyrometers

For the measurement of high temperatures 500° F. (260° C.) and upwards, in different processes, such as heat treatment of metals.

Pyrometers—Cont.

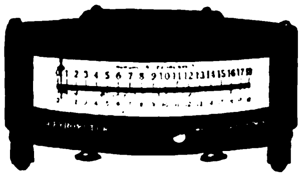


FIG. 11. RARE METAL PYROMETER

GENERAL USES—Steel hardening, brick manufacture, galvanizing, gas works, flues, and in practically any manufacturing process where high temperatures are employed. Radiation, rare metal (le Chatelier), base metal, thermo-electric, indicating, recording, portable and wall types.

RARE METAL PYROMETERS FOR HIGH TEMPERATURES—Thermo-couple elements, pure platinum and platinum with 10 per cent rhodium. Used with indicators or recorders of rugged construction but high resistance. Ready for immediate installation. Thermo-couples are protected with refractory stems as follows: Alundum tip, 3000° F. (1647° C.), quartz tip, 1700° to 2200° F. (930° to 1210° C.). Special open ranges where desired.

BASE METAL PYROMETERS—Ranges 0° to 1000° F. (—18° to 535° C.) and 0° to 1800° F. (—18° to 985° C.). All thermo-couples, indicators and recorders, in any range interchangeable. The most rugged indicating or recording pyrometers made.

All above outfits furnished in single or multiple form. Heavy dust-proof switches permit centralization of readings.

RECORDERS—Thread type charts have rectangular co-ordinates. Rare metal and base metal, 50-day charts.

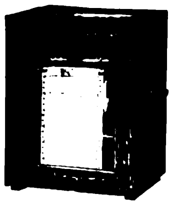


FIG. 12. THREAD RECORDER

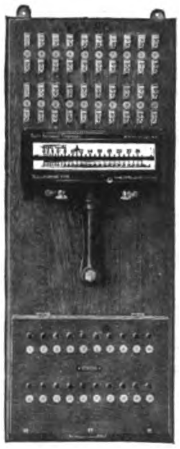


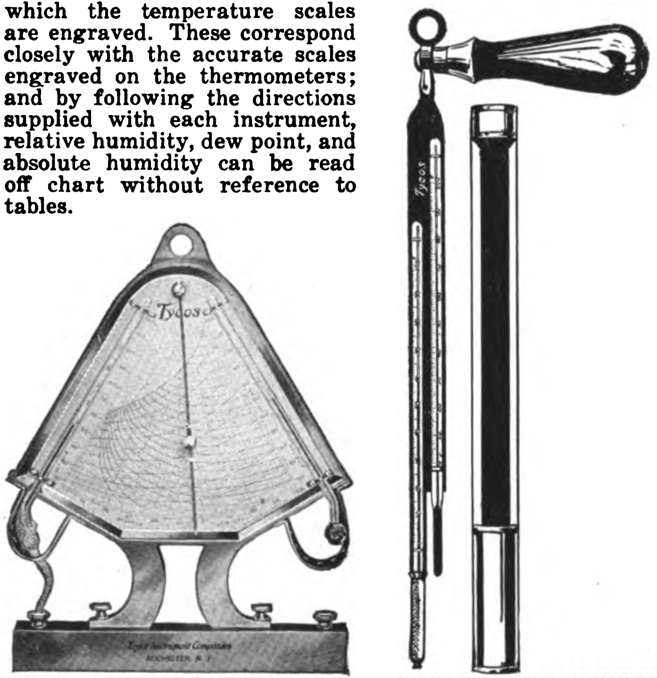
FIG. 13. 20 POINT SWITCHBOAD No. C4934

Hygrometers

The hygrometer or sling psychrometer, illustrated, is of wet and dry bulb construction. The advantage of this form over stationary type is that tests can be made quickly and readings are accurately obtained, as in whirling the bulb they are subject to perfect circulation.

Tables for determining percentage of humidity are supplied with each instrument.

HYGRODEIK—Is a wet and dry bulb hygrometer, with thermometer tubes mounted on a chart, on side margins of which the temperature scales are engraved. These correspond closely with the accurate scales engraved on the thermometers; and by following the directions supplied with each instrument, relative humidity, dew point, and absolute humidity can be read off chart without reference to tables.



HYGRODEIK HANGING FORM SLING PSYCHROMETER
FIG. 14 AND FIG. 15. WET AND DRY BULB HYGROMETERS